REMARKS

Amendments

Claim 1 is amended to recite that the jacket pieces, channels, plates, and collectors form a pressure-resistant cuboid block and that the reactor is capable of operating at process fluid and heat transfer medium pressures of more than 25 bar. See, e.g., claim 2 and page 11-19. As a result of the amendment to claim1, claim 2 is cancelled. Non-elected claims 11-24 are also cancelled.

New claims 25-31 are directed to further aspect of applicants' invention. See, e.g., page 5, line 25-page 6, line 9. New claim 32 is similar to claim except that the claim does not recite that the plates are flat or are provided with grooves or ribs and are coated at least partially with a catalyst on the surface that faces the process fluid. See new claim 33. New claim 35 is similar to claim 1, except that the claim expressly recites sources of process fluid and heat transfer medium. New claim 35 is directed to a further aspect of applicants' invention and is supported by, for example, the embodiment illustrated in Figure 1.

Rejection under 35 USC §102(e) in view of Romantier et al.

Claims 1-3 and 10 are rejected as allegedly being anticipated in view of the Romantier et al. (US 6,168,765). This rejection is respectfully traversed.

US '765 a plate reactor containing a plurality of plates which define reaction zones and a heating zones. A reactant-containing stream is passed through a plurality of channels which are defined by spaced apart plates. The reactant stream contacts a catalyst within this plurality of channels. During its passage, the reactant-containing stream is subjected to indirectly heat exchange with exchange fluid which passes through another plurality of channels also defined by the spaced apart plates.

The plates can be corrugated. See, for examples the embodiments illustrated in Figures 2 and 3.

However, US '765 does not suggest a plate reactor which can operate a high pressures. Applicants' claim 1 recites that the reactor has lateral boundary areas which are jacket pieces, and

that these jacket pieces, together with the channels, plates, and collectors, form a pressure-resistant cuboid block, whereby the reactor is capable of operating at process fluid and heat transfer medium pressures of more than 25 bar.

The only discussion of pressures by US '765 is at column 6, lines 7-11. In this disclosure, US '765 states that for the plate reactor the differential pressures will remain low, and that ordinarily the differential pressure across plate elements will not exceed 0.5 MPa (5 bar).

In view of the above remarks, it is respectfully submitted that US '765 fails to anticipate applicants' claimed invention. Withdrawal of the rejection under 35 USC §102(e) is respectfully requested.

Rejection under 35 USC §103(a) in view of Romantier et al. and Mulvaney et al.

Claims 4-9 are rejected as allegedly being obvious in view of the Romantier et al. (US 6,168,765) in combination with Mulvaney et al. (US 6,159,358). This rejection is also respectfully traversed.

In the rejection, US '538 is relied on for its disclosure of using perforated plates. It is noted that US '765 also discloses perforated plates. At column 3, line 66-column 4, line 1, US '765 describes using perforated plates to allow controlled quantities of heated reactant to flow directly into the reaction channels. This suggests that the perforations are used as inlets to introduce fluid from directly into individual channels from another region. It dos not suggest the use of perforations to permit fluid to flow between adjacent passages within a channel.

At column 8, lines 6-11, US '765 describes an arrangement wherein two or more heat exchange channels are positioned between reaction channels, and that the plates separating the two or more heat exchange channels contain perforations. This suggests the use of perforations to provide communication between adjacent channels, not between adjacent passages within a channel.

US '765 describes the use of perforated plates to alter catalyst loading in heating channels, whereby the size of the perforations block catalyst entry into a channel sub-portion while still permitting gas flow therethrough. See column 5, lines 10-25. See also column 5, lines 58-64 and column 8, lines 51-57 which describe uses of perforated plates similar to those described by US

'765. These disclosures do not suggest the use of perforations to provide fluid communication between passages within a channel. Thus, neither US '765 not US '358 suggests plates with perforations that provide flow connections between passages within a channel. Furthermore, there is no motivation suggested to modify the plate reactor of US '765 so as to employ a pressure-resistant cuboid block formed from jacket pieces, channels, plates, and collectors, to provide a reactor capable of operating at process fluid and heat transfer medium pressures of more than 25 bar,

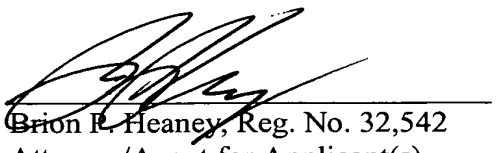
With respect to applicants' claim 5, the rejection alleges that it appears that US '765 discloses a plate having catalyst on both sides. However, the rejection does not explain how this conclusion is reached. For example, there is no disclosure in US '765 of having two adjacent reaction fluid channels so that two such channels would share a common wall.

With respect to catalyst thickness, the rejection speaks in general terms of the inoperability of layers that are too thin and too thick. However, this in no way suggest why one of ordinary skill in the art would select the thickness range recited in applicants' claims 7 and 8.

In view of the above remarks, it is respectfully submitted that US '765, alone or in combination with US '358, fails to render obvious applicants' claimed invention as recited in claims 4-9. Withdrawal of the rejection under 35 USC §103(a) is respectfully requested.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,



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